CLAIMS:

1. A thermal printer capable of preventing crease formation in successive dye transfer areas of a dye donor web that can cause line artifacts to be printed on a dye receiver during dye transfer from each dye transfer area to the dye receiver, said printer comprising:

a thermal print head for heating a dye transfer area of the dye donor web sufficiently to cause dye transfer from the dye transfer area to the dye receiver, but not heating two opposite edge areas of the dye donor web alongside the dye transfer area sufficiently to allow dye transfer from the two edge areas to the dye receiver, so that the dye transfer area is vulnerable to being longitudinally stretched relative to the two edge areas to possibly form creases in the dye transfer area;

a crease-preventing platen roller movable to adjacent said print head for supporting both the dye receiver and the dye transfer area and two edge areas partially wrapped longitudinally about said platen roller, so that respective wrap angles are formed for the dye receiver and for the dye transfer area and two edge areas relative to said platen roller, and being configured to urge the dye transfer area and two edge areas to spread in opposition to crease formation during dye transfer from the dye transfer area to the dye receiver; and

a wrap angle regulator movable for increasing at least the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller, whereby said platen roller can urge more of the dye transfer area and two edge areas to spread.

2. A thermal printer as recited in claim 1, wherein a sensor and control device senses at least one variable that can cause longitudinal stretching of the dye transfer area relative to the two edge areas and determines whether the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller should be increased, and said wrap angle regulator moves to increase at least the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller in accordance with said

sensor and control device determining that the wrap angle of the dye transfer area and two edge areas should be increased.

3. A thermal printer as recited in claim 2, wherein a donor web take-up can longitudinally tension the dye transfer area and two edge areas at said print head sufficiently to longitudinally stretch the dye transfer area relative to the two edge areas when the dye transfer area is heated to cause dye transfer to the dye receiver, and said sensor and control device senses temperature and longitudinal tension widthwise across the dye transfer area and two edge areas at said print head to determine whether the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller should be increased.

4. A thermal printer as recited in claim 3, wherein said sensor and control device includes a look-up table that lists various combinations of temperature and tension and lists a preferred wrap angle for each combination of temperature and tension.

5. A thermal printer as recited in claim 4, wherein said sensor and control device senses the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller and compares the wrap angle with a wrap angle in said look-up table that corresponds to a combination of temperature and tension in said look-up table that is closest to temperature and tension sensed by said sensor and control device in order to determine whether the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller should be increased.

6. A thermal printer as recited in claim 1, wherein said wrap angle regulator is movable to increase the wrap angle for the dye transfer area and two edge areas relative to said crease-preventing platen roller from 20° to no more than 90°.

7. A thermal printer as recited in claim 1, wherein a donor web take-up can longitudinally tension the dye transfer area and two edge areas at said print head sufficiently to longitudinally stretch the dye transfer area relative to the two edge areas when the dye transfer area is heated to cause dye transfer to the dye receiver, and said crease-preventing platen roller has respective web spreading portions that are similarly spiraled inwardly from opposite coaxial ends of said platen roller to urge the dye transfer area and two edge areas to spread towards said coaxial ends in opposition to crease formation when the dye transfer area and two edge areas are longitudinally tensioned.

8. A thermal printer as recited in claim 7, wherein said web spreading portions are respective helical grooves similarly spiraled inwardly from said coaxial ends of said crease-preventing platen roller to form resilient helical ribs that can be deformed towards said coaxial ends by longitudinal tensioning of the dye transfer area and two edge areas in order for said ribs to spread the dye transfer area and two edge areas towards said coaxial ends.

9. A thermal printer as recited in claim 7, wherein said web spreading portions are respective diagonally wound fibers similarly coiled inwardly from said coaxial ends of said crease-preventing platen roller to be wound towards one another from said coaxial ends.

10. A thermal printer as recited in claim 1, wherein a donor web take-up can longitudinally tension the dye transfer area and two edge areas at said print head sufficiently to longitudinally stretch the dye transfer area relative to the two edge areas when the dye transfer area is heated to cause dye transfer to the dye receiver, and said crease-preventing platen roller has respective web spreading portions that are gradually tapered towards opposite coaxial ends of said platen roller to allow the dye transfer area and two edge areas to spread towards said coaxial ends in opposition to crease formation when the dye transfer area and two edge areas are longitudinally tensioned.

11. A thermal printer capable of preventing crease formation in successive dye transfer areas of a dye donor web that can cause line artifacts to be printed on a dye receiver during dye transfer from each dye transfer area to the dye receiver, said printer comprising:

a thermal print head for heating a dye transfer area of the dye donor web sufficiently to cause dye transfer from the dye transfer area to the dye receiver, but not heating two opposite edge areas of the dye donor web alongside the dye transfer area sufficiently to allow dye transfer from the two edge areas to the dye receiver, so that the dye transfer area is vulnerable to being longitudinally stretched relative to the two edge areas to possibly form creases in the dye transfer area;

a donor web take-up that can longitudinally tension the dye transfer area and two edge areas at said print head sufficiently to longitudinally stretch the dye transfer area relative to the two edge areas when the dye transfer area is heated to cause dye transfer to the dye receiver;

a crease-preventing platen roller movable to adjacent said print head for supporting both the dye receiver and the dye transfer area and two edge areas partially wrapped longitudinally about said platen roller, so that respective wrap angles are formed for the dye receiver and for the dye transfer area and two edge areas relative to said platen roller, and being configured to urge the dye transfer area and two edge areas to spread in opposition to crease formation during dye transfer from the dye transfer area to the dye receiver;

a sensor and control device for sensing temperature and/or longitudinal tension widthwise with respect to the dye transfer area and two edge areas at said print head to determine whether the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller should be increased in order for said platen roller to urge more of the dye transfer area and two edge areas to spread; and

a wrap angle regulator movable to increase the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller in accordance with said sensor and control device determining that the wrap angle of the dye transfer area and two edge areas should be increased.

12. A thermal printer as recited in claim 11, wherein said sensor and control device senses temperature widthwise with respect to the dye transfer area and two edge areas at said print head and determines whether differences in temperature sensed between the dye transfer area and two edge areas makes the dye transfer area vulnerable to being stretched relative to the two edge areas.

13. A thermal printer as recited in claim 12, wherein said sensor and control device senses longitudinal tension widthwise with respect to the dye transfer area and two edge areas at said print head and determines whether longitudinal tension sensed in combination with differences in temperature sensed makes the dye transfer area vulnerable to be stretched relative to the two edge areas.

14. A method in a thermal printer of preventing crease formation in successive dye transfer areas of a dye donor web that can cause line artifacts to be printed on a dye receiver during dye transfer from each dye transfer area to the dye receiver, said method comprising:

heating a dye transfer area of the dye donor web sufficiently to cause dye transfer from the dye transfer area to the dye receiver, but not heating two opposite edge areas of the dye donor web alongside the dye transfer area sufficiently to allow dye transfer from the two edge areas to the dye receiver, so that the dye transfer area is vulnerable to being longitudinally stretched relative to the two edge areas to possibly form creases in the dye transfer area;

supporting both the dye receiver and the dye transfer area and two edge areas on a crease-preventing platen roller that can urge the dye transfer area and two edge areas to spread in opposition to crease formation during dye transfer from the dye transfer area to the dye receiver, and with both the dye receiver and the dye transfer area and two edge areas partially wrapped longitudinally about the crease-preventing platen roller to create respective wrap angles for the dye

receiver and for the dye transfer area and two edge areas relative to the platen roller; and

increasing at least the wrap angle of the dye transfer area and two edge areas relative to the crease-preventing platen roller, whereby the platen roller can urge more of the dye transfer area and two edge areas to spread.

15. A method in a thermal printer of preventing crease formation in successive dye transfer areas of a dye donor web that can cause line artifacts to be printed on a dye receiver during dye transfer from each dye transfer area to the dye receiver, said method comprising:

heating a dye transfer area of the dye donor web sufficiently to cause dye transfer from the dye transfer area to the dye receiver, but not heating two opposite edge areas of the dye donor web alongside the dye transfer area sufficiently to allow dye transfer from the two edge areas to the dye receiver, so that the dye transfer area is vulnerable to being longitudinally stretched relative to the two edge areas to possibly form creases in the dye transfer area;

supporting both the dye receiver and the dye transfer area and two edge areas on a crease-preventing platen roller that can urge the dye transfer area and two edge areas to spread in opposition to crease formation during dye transfer from the dye transfer area to the dye receiver, and with both the dye receiver and the dye transfer area and two edge areas partially wrapped longitudinally about the crease-preventing platen roller to create respective wrap angles for the dye receiver and for the dye transfer area and two edge areas relative to the platen roller;

sensing at least one variable that can cause longitudinal stretching of the dye transfer area relative to the two edge areas, and determining whether the wrap angle of the dye transfer area and two edge areas relative to the crease-preventing platen roller should be increased in order for the platen roller to urge more of the dye transfer area and two edge areas to spread; and

increasing at least the wrap angle of the dye transfer area and two edge areas relative to the crease-preventing platen roller when it is determined that the wrap angle of the dye transfer area and two edge areas should be increased.

16. A method as recited in claim 15, wherein temperature and/or longitudinal tension are sensed widthwise with respect to the dye transfer area and two edge areas to determine whether the wrap angle of the dye transfer area and two edge areas relative to the crease-preventing platen roller should be increased.

17. A thermal printer capable of preventing crease formation in successive dye transfer areas of a dye donor web that can cause line artifacts to be printed on a dye receiver during dye transfer from each dye transfer area to the dye receiver, said printer comprising:

a thermal print head for heating a dye transfer area of the dye donor web sufficiently to cause dye transfer from the dye transfer area to the dye receiver, but not heating two opposite edge areas of the dye donor web alongside the dye transfer area sufficiently to allow dye transfer from the two edge areas to the dye receiver, so that the dye transfer area is vulnerable to being longitudinally stretched relative to the two edge areas to possibly form creases in the dye transfer area;

a crease-preventing platen roller movable to adjacent said print head for supporting both the dye receiver and the dye transfer area and two edge areas partially wrapped longitudinally about said platen roller, so that respective wrap angles are formed for the dye receiver and for the dye transfer area and two edge areas relative to said platen roller, and being configured to apply mechanical friction to the two edge areas that is sufficient to cause the two edge areas to be longitudinally stretched substantially the same as the dye transfer area during dye transfer from the dye transfer area to the dye receiver, so that crease formation is prevented; and

a wrap angle regulator movable for increasing at least the wrap angle of the dye transfer area and two edge areas relative to said crease-preventing platen roller, whereby said platen roller can apply friction to more of the two edge areas.

18. A thermal printer as recited in claim 17, wherein said crease-preventing platen roller has a diameter and a compliance that is greater at opposite roller end portions than at a roller main portion, and said roller end portions and roller main portion are dimensioned for said roller main portion to support the dye transfer area partially wrapped longitudinally about said platen roller and said roller end portions to support the two edge areas partially wrapped longitudinally about said platen roller, so that said roller end portions can apply a compressive pressure against the two edge areas that is greater than a compressive pressure said roller end portion can apply against the dye transfer area, to apply the friction to the two edge areas that is sufficient to cause the two edge areas to be longitudinally stretched substantially the same as the dye transfer area.

19. A method in a thermal printer of preventing crease formation in successive dye transfer areas of a dye donor web that can cause line artifacts to be printed on a dye receiver during dye transfer from each dye transfer area to the dye receiver, said method comprising:

heating a dye transfer area of the dye donor web sufficiently to cause dye transfer from the dye transfer area to the dye receiver, but not heating two opposite edge areas of the dye donor web alongside the dye transfer area sufficiently to allow dye transfer from the two edge areas to the dye receiver, so that the dye transfer area is vulnerable to being longitudinally stretched relative to the two edge areas to possibly form creases in the dye transfer area;

supporting both the dye receiver and the dye transfer area and two edge areas on a crease-preventing platen roller that can apply mechanical friction to the two edge areas that is sufficient to cause the two edge areas to be longitudinally stretched substantially the same as the dye transfer area during dye transfer from the dye transfer area to the dye receiver, so that crease formation is prevented, and with both the dye receiver and the dye transfer area and two edge areas partially wrapped longitudinally about the crease-preventing platen roller to create respective wrap angles for the dye receiver and for the dye transfer area and two edge areas relative to the platen roller; and

increasing at least the wrap angle of the dye transfer area and two edge areas relative to the crease-preventing platen roller, whereby the platen roller can apply friction to more of the two edge areas.

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